

## REMARKS

### Claim Rejections - 35 USC 112

Claim 31 stands rejected as indefinite on the basis that the phrase “liquid droplets are applied by ink-jet printing” is unclear because there is no statement describing to what the droplets are applied.

Consistent with an agreement reached at the interview on October 1, claim 31 has been amended as suggested in paragraph 17 of the office action to add the word “the.” Applicants respectfully request reconsideration and withdrawal of this rejection.

### Objections

Claims 14 and 16 stand objected to on the basis that they do not further limit the subject matter of a previous claim. Specifically, it is asserted that the claim term “pattern” is inclusive of all areas. The Applicants arguments that the term “pattern” refers to less than the entire area were found unconvincing, see office action, para. 17. Consistent with an agreement reached at an interview, these claims have been amended to explicitly state that the “pattern” in question does not include the entire surface area. The Applicants respectfully request reconsideration and withdrawal of this rejection.

### Claim Rejections - 35 USC 102

#### Claim 9

Claim 9 stands rejected as anticipated by US Patent No. 6,099,746 to Kim.

Claim 9 requires removing a dopant *from* areas of a coating -- i.e., the areas of the coating from which the dopant is removed survive the process. It is believed that the terminology “removing the dopant from ... the coating” indicates that the coating remains after the dopant is removed. But to expedite prosecution, and in response to para. 17 of the office action, and consistent with an agreement reached at the October 1 interview, the claim has been amended to explicitly state that areas of the coating from which dopant has been removed remain after such removal.

Kim discloses a process in which parts of an organic layer are completely removed by planarization. As conceded by the office action, the host is removed in addition to the dopant. In

fact, apparently all of the organic layers of the device are removed from the area in question. Kim, col. 4, lines 47-50 (cited in Office Action, paragraph 5, last sentence). Because the areas of the coating in question in Kim do not remain after planarization, the Applicants respectfully request reconsideration and withdrawal of this rejection.

### **Claims 19, 24 and 27**

Claims 19, 24 and 27 stand rejected as anticipated by US Patent No. 5,398,051 to Fukui.

Claim 19 has been amended to specify that dopant is contained in the second layer after transfer. While Applicants believe that this limitation is included in the definition of the word “dopant,” the limitation has been explicitly added to render moot any definitional issues.

Fukui discloses a method of transferring ink from an ink sheet 7 to a recording layer 3 of an intermediate transfer member 4, and finally to an image receiving medium 12. But the ink of Fukui is not a “dopant” in image receiving medium 12. Rather, recording layer 3 and transferred image 16 are adhered to surface irregularities in image receiving medium 12, without the intimate level of mixing required by the word “dopant.” See Fukui, Figure 2 and the related description at col. 6, lines 43-64 (describing the receiving medium 12 and recording layer 3). Because Fukui does not disclose host / dopant mixing between image receiving medium 12 and transferred image 16, and consistent with an agreement reached at the October 1 interview, Applicants respectfully request reconsideration and withdrawal of this rejection.

In addition, Fukui does not disclose the “transfer” of a dopant *from* a first layer (recording layer 3) *to* a second layer (receiving medium 12). Rather, the entire first layer (recording layer 3) is adhered to the second layer (receiving medium 12) -- see Figure 2 -- without any mention of a transfer of dopant from recording layer 3 to receiving medium 12.

Claims 24 and 27 are ultimately dependent on claim 19, and are patentable for at least the same reasons. The Applicants’ silence with respect to the specific grounds for rejection of these claims does not indicate acquiescence.

### **Claim Rejections - 35 USC 103**

#### **Claims 1-3, 5-7, 28-31 and 36-40**

Claims 1-3, 5-7, 28-31 and 36-40 stand rejected as obvious in view of Shirasaki ‘692 in combination with US Patent No. 5,521,047 to Yuh et al.

Each of the independent claims (claims 1, 28 and 36) require the use of a solvent to diffuse a dopant into an organic material. As indicated in the office action at page 4, Shirasaki does not disclose this feature. Neither does Yuh, the other reference cited. Yuh is cited as disclosing that certain inks may be dissolved in certain solvents. It does not address whether such a solvent may be used to cause the ink to diffuse into an organic material.

In fact, Shirasaki teaches away from using a solvent to diffuse a dye into the organic, by repeatedly stressing the use of heat or other energy to diffuse the dye into the organic layer. Shirasaki further teaches away by stating that, without the application of energy, fluorescent pigment applied with a solvent will “dry,” and is only subsequently “diffused” into the organic layer after the solvent is “dried.” Shirasaki, col. 9, lines 13-23.

The argument in para. 17 that Applicants’ solvents are fairly suggested by the art of record is inconsistent with the fact that Shirasaki teaches energy-based diffusion, and teaches away from solvent-based diffusion. The argument that Applicants’ claims do not exclude heating is inapposite. Claim 1 is limited to solvent-based diffusion, which is not taught or suggested by the prior art. The exclusion or inclusion of heating is not relevant.

Yuh is cited as teaching that certain solvents are useful as solvents for certain fluorescent pigments. Office Action, paragraph 8. Neither Shirasaki nor Yuh teaches that such a solution may be used to diffuse the solvent into an organic layer, as required by claims 1, 28 and 36. Indeed, Shirasaki teaches away. As agreed at the October 1 interview, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claims 2-3, 5-7, 29-31 and 37-40 are each dependent on one of independent claims 1, 28 or 36, and are patentable for at least the same reasons. The Applicants’ silence with respect to the specific grounds for rejection of these claims does not indicate acquiescence.

### **Claim 8**

Claim 8 stands rejected as obvious in view of Shirasaki ‘692 in combination with US Patent No. 5,521,047 to Yuh et al. in further view of US Patent No. 6,150,042 to Tamano et al.

Claim 8 is ultimately dependent on claim 1, and is patentable for at least the same reasons. The Applicants’ silence with respect to the specific grounds for rejection of this claim does not indicate acquiescence.

### **Claims 9-10, 12 and 14**

Claims 9-10, 12 and 14 stand rejected as obvious in view of US Patent 6,329,111 to Nojiri et al. and in view of US Patent 5,004,956 to Kun et al.

The cited art relates to photolithographic techniques that are used to remove a layer in its entirety. See Nojiri at col. 35, lines 23-26 (“Step of removing unnecessary portions from the phosphor-containing photosensitive resin composition layer (A) and/or the thermoplastic resin layer (B) by development”); Kun at col. 5, lines 15-20 (“the [various layers] are formed by any suitable technique, such as E-beam evaporation and photolithography”). As discussed above with respect to the 35 USC 102 rejection of claim 9, this art is completely different from the invention as claimed in claim 9, where the coating *remains* after dopant removal. The cited art does not disclose the removal of a dopant from a coating, but rather discloses the removal of the coating itself.

Claims 10, 12 and 14 are ultimately dependent on claim 9, and are patentable for at least the same reasons. The Applicants’ silence with respect to the specific grounds for rejection of these claims does not indicate acquiescence.

### **Claims 20-21**

Claims 20-21 stand rejected as obvious in view of Fukui ‘051 in combination with US Patent No. 5,640,180 to Hale et al.

Claims 20 and 21 are ultimately dependent on claim 19, and are patentable for at least the same reasons. The Applicants’ silence with respect to the specific grounds for rejection of these claims does not indicate acquiescence.

### **Claim 23**

Claim 23 stands rejected as obvious in view of Fukui ‘051 in combination with US Patent No. 4,833,123 to Hashimoto et al.

Claims 20 and 21 are ultimately dependent on claim 19, and are patentable for at least the same reasons. The Applicants’ silence with respect to the specific grounds for rejection of these claims does not indicate acquiescence.

**Claim 25**

Claim 25 stands rejected as obvious in view of Fukui '051 in combination with US Patent No. 3,986,823 to Mayer.

Claim 25 is ultimately dependent on claim 19, and is patentable for at least the same reasons. The Applicants' silence with respect to the specific grounds for rejection of this claims does not indicate acquiescence.

**Claim 26**

Claim 26 stands rejected as obvious in view of Fukui '051 in combination with US Patent No. 5,801,884 to Sato et al.

Claim 26 is ultimately dependent on claim 19, and is patentable for at least the same reasons. The Applicants' silence with respect to the specific grounds for rejection of this claims does not indicate acquiescence.

**Allowable / Allowed Subject Matter****Claims 15, 17 and 18**

Applicants gratefully acknowledge the indication that claims 15, 17 and 18 are allowed.

**Claim 16**

Applicants gratefully acknowledge the indicated that claim 16 would be allowable if rewritten to overcome the objection set forth in the office action. It is believed that the arguments made above address the objection.

**Claims 11 and 13**

The Applicants gratefully acknowledge the indication that claims 11 and 13 would be allowable if rewritten to overcome the rejections based on 35 USC 112 and to include the limitations of the base claim and all intervening claims. It is believed that the arguments made address the allowability of the base claim.

### **Additional Comment Re: Claim Amendments**

Claim 18 has been amended to remove some inconsistent claim language. Because claim 18 is dependent on allowed claim 15, it is believed that this amendment does not affect the allowability of claim 18.

Claim 29 has also been amended to change “layer” to “coating” to provide consistent terminology throughout.

New claim 41 has been added. Support for this claim may be found, *inter alia*, in the specification at page 7, line 22 - page 8, line 2 and Figure 1. Claim 41 is dependent on claim 1, and is allowable for at least the same reasons.

### **Interview Summary**

The Applicants thank the Examiner for the courtesy extended during an in-person interview on October 1, 2003. The Applicants note that Examiner Shrive Beck also participated in the portion of the interview that led to the handwritten correction on the interview summary sheet, although he is not listed on the interview summary sheet. During the interview, the following was discussed:

- (A) No exhibit or demonstration was shown.
- (B) The discussion focused on the patentability of claims 1, 9, 19, 28 and 36. Formal issues identified in the previous office action were addressed regarding claims 14, 16 and 31.
- (C) The following references were discussed: US 5,895,692 to Shirasaki, US 6,099,746 to Kim, US 5,398,051 to Fukui. The Applicants note that Nojiri and Kun were also briefly discussed in connection with claim 9, and Yuh with respect to claims 1, 28 and 36.
- (D) The amendments to claims 9, 14, 16, 19 and 31 were specifically discussed. The fact that claims 1, 28 and 36 were not amended was also specifically discussed.
- (E) The applicants argued:

Claims 1, 28 and 36: Shirasaki does not disclose solvent based diffusion, nor does it identify a specific solvent. Yuh merely identifies some chemicals that act as solvents for particular dopants, but does not provide any motivation to select these particular solvents from all of the solvents known to the art for use in the claimed method. The PTO has not met its burden for rejecting the claims with these two references.

Claim 9: Kim does not disclose removal of a dopant from regions of a layer that continue to exist after the dopant is removed. Neither do Nojiri and Kun.

Claim 19: Fukui does not disclose a transfer of dopant from recording layer 3 to receiving medium 12.

Claims 14 and 16: The amendments made herein were discussed.

Claim 31: The amendment made herein was discussed.

(F) It is not believed that other pertinent issues were discussed.

(G) It was agreed that the presently pending rejection of claims 1, 28 and 36 would be withdrawn, but further search and consideration may be needed. In view of the agreement on these claims, it was further agreed that the present amendment after final would be entered.

It was agreed that the amendments relating to claims 9 and 19 overcome the presently pending rejections, and that those rejections would be withdrawn, but further search and consideration may be needed.

It was agreed that the amendments to claims 14, 16 and 31 overcome the specific rejections / objections in the previous office action relating to those claims, and that the rejections / objections would be withdrawn.

(H) There was no e-mail communication.

## CONCLUSION

Withdrawal of all pending objections and rejections, and allowance of the above-reference application, is respectfully requested.

Respectfully submitted,

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